REMARKS

The Office Action dated November 12, 2008, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 5-8, 16, 18, 20-21, 23-24, 26-27, 29-31, and 33-35 are currently pending in the application, of which claims 5 and 7 are independent claims. Claims 1-4, 9-15, 17, 19, 22, 25, 28, and 32 have been cancelled without prejudice or disclaimer. Entry of these amendments are respectfully requested because they merely cancel claims, thereby materially reducing the issues presented.

Applicants thanks the Examiner for indicating that claims 5-6, 16, 18, 20, 23, 26, 29, and 33 are allowed. Accordingly, claims 7-8, 21, 24, 27, 30-31, and 34-35 are respectfully submitted for consideration in view of the following remarks.

Claim Rejections under 35 U.S.C. §102(b)

The Office Action rejected claims 1-4, 11, 15, 17, 22, 28, and 32 under 35 U.S.C. §102(b) as allegedly anticipated by Clark (U.S. Patent No. 6,426,837) ("Clark"). Applicants have cancelled claims 1-4, 11, 15, 17, 22, 28, and 32 without prejudice or disclaimer. Thus, it is respectfully requested that the rejection of claims 1-4, 11, 15, 17, 22, 28, and 32 be withdrawn as moot.

Claim Rejections under 35 U.S.C. §103(a)

Claims 7, 8, 24, 30, 31, 34, and 35

The Office Action rejected claims 7-8, 24, 30-31, and 34-35 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Clark in view of Takahashi (U.S. Publication No. 2001/0050892) ("Takahashi"). The Office Action acknowledged that Clark does not disclose all of the features of the rejected claims, and cited Takahashi to remedy Clark's deficiencies with respect to the rejected claims. Applicants respectfully traverse this rejection.

Claim 7, upon which claims 8, 21, 24, 27, 30-31, and 34-35 depend, is directed to a polarizing element. The polarizing element has a two-layer structure in which a grating pattern having a constant period Λ is formed in a substrate. The polarizing element also has a cross section of the grating pattern having a triangular shape. The polarizing element further has a film having a refractive index higher than that of the substrate is deposited on the grating pattern, in the case where a first wavelength λ_1 and a second wavelength λ_2 satisfy a relationship of $\lambda_1 < \lambda_2$, $\Lambda\cos\theta_0 < \lambda_1$ where θ_0 is an angle of incidence to a grating surface, and the grating period, a grating height, and a film thickness are determined such that reflection efficiency of zero-order diffracted light of TE polarization is not lower than a predetermined value that is sufficient for the polarizing element to function as a reflecting element for the first wavelength λ_1 while transmission efficiency of zero-order diffracted light of TM polarization is not lower than the predetermined value that is sufficient for the polarizing element to function as a

transmitting element for the first wavelength λ_1, and such that reflection efficiency of the zero-order diffracted light of TE polarization is not lower than the predetermined value that is sufficient for the polarizing element to function as a reflecting element for the second wavelength λ_2 while transmission efficiency of the zero-order diffracted light of TM polarization is not lower than the predetermined value that is sufficient for the polarizing element to function as a transmitting element for the second wavelength λ_2.

Applicants respectfully submit that the combination of Clark and Takahashi fails to disclose or suggest all of the elements of any of the presently pending claims.

Clark generally describes a diffractive having a grating period that exhibits significant polarization selectivity. The diffractive of Clark is used as a polarizing beamsplitter for obliquely incident polarized light. The grating is designed to substantially transmit transverse magnetic mode (TM) polarized light and to substantially reflect transverse electric mode (TE) polarized light at certain wavelengths or angles of incidence. For ease of manufacture, the polarizing beamsplitter of Clark can (according to Clark) be integrated along with other optical elements, such as a subwavelength retarder, to form a polarization beam router, a dichroic beam combiner, a beam splitter on a curved surface, or an optical pickup using an optical beam splitter and router.

Clark, however, fails to disclose or suggest "a cross section of the grating pattern having a triangular shape," as recited in claim 7. Figure 10 of Clark (shown on the cover of Clark) is a cross-sectional view of something that has a triangular cross-section. This, however, is a router (aka prism) 100, as explained at column 8, lines 22-60, of Clark.

Clark's grating pattern can be seen in Figure 1 of Clark. As can be seen from Clark's Figure 1, the grating pattern has a rectangular cross-section. Furthermore, there is no other part of Clark's disclosure where a triangular cross-section for the grating pattern is disclosed or hinted at.

Additionally, Clark fails to disclose or suggest "a film having a refractive index higher than that of the substrate is deposited on the grating pattern," as recited in claim 7. In Clark there is no disclosure of any film on the beam splitter 10, with rectangular notches 15, which is supposed (in the Office Action's rejection) to correspond to the claimed grating pattern (not admitted).

With respect to this feature, in the "Response to Arguments" section, the Office Action stated that "Clark teaches the refractive index increases from the top of the structure to the bottom (col. 4 lines 15-28)." Applicants respectfully submit that this statement does not negate the patentability of the claim features.

In the cited portion of Clark, the refractive index being discussed means an average refractive index of a slice perpendicular to k (see Figure 1 of Clark). Each slice includes a portion of the beam splitter 10 having a refractive index of n2 and a portion of air having a refractive index n1. Accordingly, the average refractive index is calculated using n1 and n2. Thus, this portion of Clark merely gives an explanation regarding the structure shown in Figure 1 of Clark and does not say anything about a film disposed on the grating pattern. Likewise, Figure 9 of Clark similarly fails to disclose a film disposed on a grating pattern.

Thus, for at least the reasons above, it is respectfully submitted that Clark fails to disclose or suggest either, "a cross section of the grating pattern having a triangular shape," as recited in claim 7 or "a film having a refractive index higher than that of the substrate is deposited on the grating pattern," as recited in claim 7. It is respectfully submitted that Takahashi fails to remedy these deficiencies of Clark, and consequently the combination of Clark and Takahashi fails to disclose or suggest all of the elements of any of the presently pending claims.

Takahashi generally relates to an optical disk apparatus compatible with different types of media. Takahashi was cited by the Office Action with reference to the use of a second wavelength. Accordingly, it is unsurprising that Takahashi fails to disclose or suggest, "a cross section of the grating pattern having a triangular shape," as recited in claim 7 or "a film having a refractive index higher than that of the substrate is deposited on the grating pattern," as recited in claim 7. Since Takahashi fails to disclose or suggest such features, Takahashi cannot fully remedy the deficiencies of Clark, and the combination of Clark and Takahashi fails to disclose or suggest all of the features of claim 7. It is, therefore, respectfully requested that the rejection of claim 7 be withdrawn.

Claims 8, 24, 30-31, and 34-35 depend from and further limit claim 7. Thus, each of claims 8, 24, 30-31, and 34-35 recites subject matter that is neither disclosed nor suggested in the combination of Clark and Takahashi. It is, therefore, respectfully requested that the rejection of claims 8, 24, 30-31, and 34-35 be withdrawn, and that this application be passed to issuance.

Claims 9, 10, 12-14, 19, and 25

The Office Action rejected claims 9-10, 12-14, 19, and 25 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Clark in view of Ohta (U.S. Publication No. 2003/0228413) ("Ohta"). Applicants have cancelled claims 9-10, 12-14, 19, and 25 without prejudice or disclaimer. Thus, it is respectfully requested that the rejection of claims 9-10, 12-14, 19, and 25 be withdrawn as moot.

Claims 21 and 27

The Office Action rejected claims 21 and 27 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Clark in view of Takahashi, as applied to claim 7, and further in view of Ohta. The Office Action acknowledged that the combination of Clark and Takashi fails to disclose further limitations of claims 21 and 27, and cited Ohta to remedy such deficiencies. Applicants respectfully traverse this rejection.

Claims 21 and 27 depend from and further limit claim 7. At least some of the deficiencies of the combination of Clark and Takahashi are discussed above. For example, the combination of Clark and Takahashi fails to disclose or suggest "a cross section of the grating pattern having a triangular shape," as recited in claim 7 or "a film having a refractive index higher than that of the substrate is deposited on the grating pattern," as recited in claim 7. Ohta does not remedy these deficiencies, and consequently the combination of Clark, Takahashi, and Ohta fails to disclose or suggest all of the elements of any of the presently pending claims.

Ohta generally relates to a surface treatment method and optical part. Ohta was cited in the Office Action simply for disclosing the compositions of a film and substrate. Thus, it is unsurprising that Ohta fails to disclose or suggest "a cross section of the grating pattern having a triangular shape," as recited in claim 7 or "a film having a refractive index higher than that of the substrate is deposited on the grating pattern," as recited in claim 7. Since Ohta fails to disclose or suggest such features, Ohta cannot fully remedy the deficiencies of the combination of Clark and Takahashi, and the combination of Clark, Takahashi, and Ohta fails to disclose or suggest all of the features of claim 7 or of claims 21 and 27, which depend therefrom. It is, therefore, respectfully requested that the rejection of claims 21 and 27 be withdrawn.

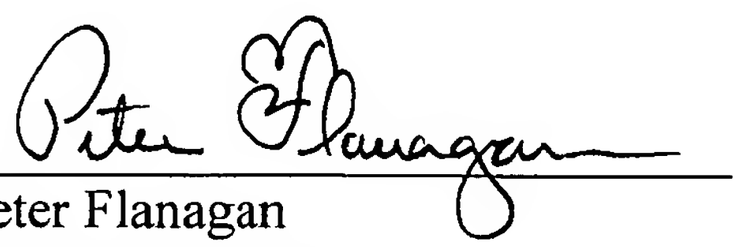
Conclusion

For the reasons set forth above, it is respectfully submitted that each of claims 7-8, 21, 24, 27, 30-31, and 34-35 recite subject matter that is neither disclosed nor suggested in the cited art. Claims 5-6, 16, 18, 20, 23, 26, 29, and 33 are allowed. Accordingly, it is respectfully requested that all of claims 5-8, 16, 18, 20-21, 23-24, 26-27, 29-31, and 33-35 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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